

NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

Friday, July 11, 2003

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Lab earns six R&D 100 Awards

Lawrence Livermore researchers posted another top-drawer performance in the annual R&D 100 awards competition for the leading industrial inventions worldwide, winning six awards. The Laboratory's six plaques represent the second consecutive year that Livermore employees have won six R&D 100s. The six technologies honored and the employees who developed them are:

- **High-Average-Power Electro-Optic Q Switch:** This technology will allow fast optical switching of high-average power lasers for machining, energy research and national defense applications. The Q switch offers a ten fold increase in the average power handling capability for lasers to 300 watts instead of only 30 watts. Members of the award-winning team from the Laser Science and Technology Program and



SANDIA NATIONAL LABORATORIES

A worker at Sandia National Laboratories aligns measuring equipment. Sandia, Lawrence Livermore and Lawrence Berkeley national labs are part of the consortium developing the next-generation microchips that can be 100 times faster with 1,000 times more memory using extreme ultraviolet lithography (EUVL).

Engineering, are: Christopher Ebbers, Vernon Kanz and former Lab employee Hitoshi Nakano.

- **Biological Aerosol Sentry and Information System (BASIS):** In an award shared by Los

See **R&D 100**, page 8

Lab's Suter is awarded 2003 Edward Teller Medal for development of hohlraums

By **Bob Hirschfeld**

NEWSLINE STAFF WRITER

The American Nuclear Society has awarded the prestigious 2003 Edward Teller Medal to veteran Lab researcher Laurance J. Suter.

Suter is an expert in the design and utilization of hohlraums, the tiny gold containers that hold a laser target as intense X-rays heat it during inertial confinement fusion experiments.

In announcing the award, the American Nuclear Society recognized Suter "for his seminal work on almost all aspects of laser hohlraum physics. During the past 20 years, he has become widely known as one of the world's leading experts on laser hohlraum physics, with contributions on many topics, including X-ray conversion and drive in hohlraums, symmetry control, the impact of pulse shaping on capsule implosion, and development of a wide variety of experimental techniques to verify and improve the computational models."



Laurance J. Suter

As the group leader of the Hohlraum Dynamics

See **AWARD**, page 8

Controlled access to the East Avenue corridor now set for the month of August

Controlled access of the East Avenue corridor between the two national laboratories has been pushed back to early August to allow completion of detail work on the project.

Electrical systems for security kiosks, installation of telephones in the transfer area at the corner of Vasco Road and East Avenue and sidewalks are now being completed. The project to enhance security in the corridor is a collaboration between the Lab and Sandia National Laboratories.

"We want to ensure that the transition to controlled access of the East Avenue corridor is as smooth as possible," said Dave Leary, director of Safeguards and Security.

Controlled access to the East Avenue corridor will bring about some changes to public bus service to the laboratories. WHEELS buses will drop passengers at the turn-around area at the southeast corner of Vasco Road and East Avenue where they will transfer to lab shuttle buses. As with any vehicle, passengers will be checked for valid badge or

EAST AVE., page 3

NNSA announces initiative to bolster security

National Nuclear Security Administration Administrator Linton Brooks on Tuesday announced a five-part initiative to reinforce current safeguards and security oversight and strengthen long-term security operations in the nuclear weapons complex.

Brooks directed NNSA managers to take the following immediate actions:

- Assign additional federal and contractor security experts to expedite NNSA's response to security management concerns that the agency has identified at the laboratories in recent months;
- Require NNSA site managers to increase the fre-

quency of surveillance of security at the weapons laboratories; surveillance is a security management tool that measures performance of security operations; site managers are expected to provide biweekly reports directly to the administrator personally on the results of the enhanced surveillance.

- Review recommendations from numerous past internal and external studies and investigations to ensure that all appropriate recommendations have been implemented.

SECURITY, page 8

New log-in procedure to start Monday

Starting Monday, employees are to log in to most institutional applications (such as LITE, LTRAIN, Data Warehouse, and TOPS) using their Official User Names (OUN) and Personal Access Codes (PAC) instead of their P accounts and passwords.

The change to OUN and PAC does not occur until Monday, so employees are asked to continue to log in to affected applications using their P

accounts until then. The change to using OUN and PAC is based on DOE cyber security requirements and LLNL audit findings.

The project is a collaborative effort between the Administrative Information Systems Department (AIS) and Computer Security Technology Integration (CSTI). See the P2OUN-PAC Application Login Changes Website, <http://www.llnl.gov/P2OUN/>, for more information.



All's weld for material fellow

— Page 3



Secret science of World War II revealed

— Page 7



Staying the course

— Insert



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Sunday
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UTel has scheduled a **power outage** set for today in Bldgs. 162, 164 and 165 and trailers 1602 and 1678. Air conditioning, heating and elevators will be affected.

This scheduled power outage is required to support the Electrical Distribution Maintenance Program. If any questions arise, please contact Mark Cardoza at 3-0490.

Tuesday
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A **Fidelity retirement counselor** will be available today and Wednesday to assist employees with assessing the current state of your retirement

accounts, learning how to diversify, planning your asset allocation, and identifying income strategies. If you would like to set up a consultation with your Fidelity representative, call 1-800-642-7131. When calling, be sure specify that you are an LLNL employee.

Wednesday
16

The deadline for the **Women's Technical Symposium**, entitled "Our UC Colleagues and Connections," is scheduled for Aug. 12-13 at the San Ramon Valley Conference Center. The registration

deadline for the "Women's Technical Symposium" is July 16. Go to the Web at <http://wts.llnl.gov> to register and for more information.

UP
&
COMING

A **California Casualty Insurance** representative will be in the Benefits Office on Friday, July 18. Appointments are required and may be scheduled by calling 2-9955. California Casualty offers individual rates to Lab employees by payroll deduction for auto and homeowner/renter insurance. As with any employee-paid insurance coverage, employees are encouraged to comparison shop.

The Worklife Programs Office is looking for volunteers for display booths representing a wide variety of world cultures and interests for the **Annual Day on the Green**. This year's Day on the Green will be held Thursday, Aug. 14. Booths may display art, jewelry, photographs, ethnic clothing, cultural items, etc. This is an inclusive multicultural celebration that aims to have representation from as many backgrounds as possible. For more information, contact Michele Cardenas by Wednesday, July 23 at 3-2796 or email, cardenas7@llnl.gov.

The Employee and Organization Development Division (EODD) is offering a brown-bag briefing for employees interested in pursuing an undergraduate or graduate degree at noon Thursday, Aug. 14, in Bldg. 571, room 2301. Employees can learn about the **Lab's tuition assistance program**, meet others interested in going back to school, and talk one-on-one with EODD staff. To register for this briefing, call 4-5479.

RETIREES' CORNER

The annual Lab retiree picnic was held on June 18 at Ravenswood where 111 people had a good time. The date for next year's picnic has already been set — June 16, 2004, so please mark your calendar and plan to attend. **Joe Behne** (Mechanical Engineering, 1994) visited Livermore from Las Vegas. **Mary Sites** (Laser Program, 2000) came from Prescott, Ariz. where she moved after retirement. In the past three years, she has traveled to Israel, Romania, Hungary (in Budapest she worked at an orphanage), Vienna and Italy. She does volunteer work coordinating blood drives and works at the polls during elections. (email: marys60@pocketmail.com).

The **July retiree luncheon** will be Wednesday, July 16, at Cattleman's. Our speaker will be **Jay Davis** and his topic is "The Future of Science and Technology." Jay is a great speaker, so reserve early.

We will finally get back to another segment of the adventures of **Cal** (Physics, 1993) and **Dixie Wood** (Engineering, 1993). They refer to their travels as: "Here, There, But Not Quite Everywhere."

In Venice, Italy they stayed just outside the city in a 12th Century castle. They traveled daily by bus to the "city of canals," where they took in an incredible variety of talents of the Venetian artisans, musicians, and yes, the architects of the early periods of Venice. The blown glass, the handmade linens and clothing, jewelry and paintings were exquisite. They were dismayed to see how dirty the canals have become and how the porches of some of the houses are sinking slightly beneath the water level.

In Florence, they climbed the narrow, winding staircase to the dome of the Cathedral, where the view seemed to encompass the whole of Florence, with its red-tiled roofs and sense of antiquity and history.

A popular hobby with LLNL employees — and retirees — is amateur radio. Several dozen 'hams' volunteer their services for emergency communications at the Lab, and a similar number, including many retirees, volunteer their help to the cities of Livermore and Pleasanton. Amateur radio is now part of the disaster plan for both cities, and retirees such as **Gus Olson** (KE6JO) and **Alan Mode** (KK6ZL) play an active role in supporting the Emergency Operation Centers located in the respective police departments. In addition, hams including **Dick Hatfield** (KE6PXW) help to maintain an emergency communications station in the Livermore Valley Joint Unified School District offices. Serving the whole community, the local radio repeater is operated under the auspices of **Don McDougall** (W6OA).

An informal on-the-air meeting of retirees is held every Friday morning at 8:30 a.m. If you are a Lab retiree — and a ham — join **Paul Phelps** (KF6RXXB), **Don Campbell** (W6QEY), **Frank Inami** (W6GSR), **Len Ivarson** (WA6SDA), **Jerry Hadley** (W6NCQ) and others on 40 meters (7.275 MHz) to catch up with news and to just have some fun.

Please send any news or input to Jane or Gus Olson at AugustO@aol.com or JaneRubert@aol.com or phone: (925) 443-4349 or mail items to 493 Joyce Street, Livermore, Calif. 94550.

IN MEMORIAM

Maria Bartelt

Maria Bartelt, physicist and scientific capability leader for Computational Materials Science in the Chemistry and Materials Science Directorate at the Lab, died on June 23. Bartelt had been battling non-Hodgkins lymphoma for more than a year. She was 41.

Bartelt started her career as a research assistant at the Universidade de Aveiro in Portugal where she received her diploma in theoretical solid state physics in 1984 for her work on amorphous systems. She received her masters degree in physics in 1989 and her Ph.D. in physics in 1991 from Clarkson University. She was awarded the Graduate Student Distinction Prize and membership in the Phi Kappa Phi Honor Society for her work on surface and size effects in statistical mechanics, particularly irreversible adsorption, polymers, and interfaces.

After receiving her degree, Bartelt became a post doctoral research associate at Iowa State University in Ames Iowa, until 1996. She then became a physicist in the Computational Materials Science Department at Sandia National Laboratory. She joined LLNL in 2000, where she continued her work on dislocation dynamics and became increasingly involved in simulating the growth of molecular crystals under near-equilibrium conditions from solutions. Most recently, she was working on a kinetic Monte Carlo approach to predicting the templated nucleation and growth of macromolecular structures formed at nanoscale chemical patterns on surfaces. She remained an associate scientist for the Institute for Physical Research and Technology at Iowa State.

During the course of her productive career, Bartelt published more than 70 journal articles, book chapters, and proceedings, delivered many invited talks at national and international conferences, and organized numerous symposia. She was

a recognized leader in her field.

Bartelt is survived by her husband Tim; her twin sister Maria de Fátima Taveira Pires de Carvalho; sister Dalila Carvalho; mother Arcilia Gomes Taveira, and her beloved parrot Spike.

A remembrance service in her honor was held June 28 in the Lab's Bldg. 6525. A rosebush was planted in LLNL's memory garden at the East Gate in honor of Maria's service and dedication to her work, and to her gentle spirit, which touched many people throughout her life.

Editor's note: Obituary information should be sent to newsline@llnl.gov or faxed to 2-9291.

Newsline

Newsline is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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AROUND THE LAB



Welding science innovations secure ASM fellowship

John Elmer, group leader for Materials Joining in the Chemistry and Materials Science Directorate, has been named a 2003 American Society for Metals (ASM) Fellow in recognition of his innovative contributions to the use of synchrotron radiation to welding science.

ASM International is the society for materials engineers and scientists worldwide who are dedicated to advancing industry, technology and applications of metals and materials. In 1969, ASM established the honor of fellow to provide recognition of members for distinguished contributions in the field of materials science and engineering, and to develop a broadly based forum for technical and professional leaders to serve as advisors to the society.



John Elmer

The fellows provide solicited guidance to the board of trustees that enhances the capability of ASM as a technical and professional society to serve the technical community in the field of materials science and engineering.

Elmer will be installed with the other 30 of the 2003 Class of Fellows at ASM's awards dinner on Tuesday, Oct. 14, in Pittsburgh, Penn.

Elmer was cited "for development and application of synchrotron-based, *in-situ*, spatially resolved X-ray diffraction techniques to permit quantitative understanding of phase transformation kinetics during fusion welding."

Elmer was named a fellow of the American Weld-

ing Society two years ago "in recognition of outstanding and distinguished contributions that have enhanced the advancement of the science, technology and application of welding."

The American Welding Society established the honor of fellow in 1990 to recognize members for distinguished contributions to the field of welding science and technology, and for promoting and sustaining the professional stature of the field.

"ASM International and AWS are the two societies that I have devoted the majority of my professional career to serving," Elmer said. "It was truly an honor being elected fellow to either one of them, and was a very big surprise when I found out that I had become a fellow of both societies. I couldn't be happier with this recognition."

For more information on ASM, see <http://www.asm-intl.org>.

SARS containment eases restrictions on Lab employees' travel plans

Based on the current containment of Severe Acute Respiratory Syndrome (SARS), Laboratory restrictions on travel to advisory countries and for telephone medical screening of anyone coming to the Lab who traveled to these areas is no longer applicable.

The Lab's Deputy Director of Operations last month issued Laboratory procedures to deal with the significant national health concern relating to SARS. The procedures, which are consistent with the Centers for Disease Control (CDC) and University of California guidelines, were taken to control and minimize the SARS risk and assure the health and safety of Laboratory employees.

The LLNL SARS procedure is keyed to the CDC travel advisories. A travel advisory recommends that nonessential travel to a particular area be deferred). Last week, the CDC downgraded all travel advisories for SARS.

CDC travel alerts continue to be in effect for Beijing and Taiwan. A travel alert does not advise against travel, but informs travelers of a health concern and provides advice about specific precautions.

The Laboratory's Health Services Department does recommend the following precautions for travelers to countries where alerts are in place:

- If business travel is deemed important in these areas, all travelers are advised to minimize the possibility of infection to the largest extent possible. This includes avoiding close contact with large numbers of people and washing your hands frequently. The CDC does not recommend the routine use of masks or other personal protective equipment while in public areas.

For employees and visitors to the Laboratory experiencing health concerns following travel to an alert country, Health Services provides the following guidance:

- Any individual (this includes employees, supplemental labor, participating guests, students and visitors to the Laboratory) who develop fever higher than 100.4 degrees Fahrenheit or 38 degrees Celsius and one or more respiratory symptoms, such as cough, shortness of breath or difficulty breathing within 10 days of traveling to a SARS alert country are to immediately be evaluated by their physician to determine whether they have SARS before returning to work. If it is determined by a physician that the employee does not have SARS, the employee will need to provide Health Services with a note from their doctor communicating this conclusion during their return to work evaluation.

- If an employee becomes symptomatic on site after they return to work and within 10 days of traveling to a SARS alert country, he or she should immediately contact Health Services at extension 2-7459 for guidance on next steps.

The CDC Interim Guidelines about SARS for persons traveling to areas with SARS and more information can be found on the CDC Website <http://www.cdc.gov/ncidod/sars/factsheet.htm>.

International health officials have expressed fears that SARS may make a comeback later in the year with the return of the northern hemisphere winter. As a precaution, the previously issued Laboratory SARS procedures will remain in effect should the disease re-emerge and travel advisories reinstated. The procedures can be found at <http://www-r.llnl.gov/healthserv/News/SARS3.html>.

Health Services remains a resource to Laboratory employees regarding SARS-related concerns and can provide appropriate guidance on managing travel to and from these regions of the world, depending on the specifics of each concern. Questions about the SARS procedures may be addressed to Health Services staff: Dr. Rick Watts, 4-4513, or LLNL Medical Director James Seward, 3-6903.

UC proposes to extend military duty pay

Under current University policy, employees who serve on active military duty during Operation Enduring Freedom or Operation Noble Eagle (the anti-terrorism and homeland defense campaigns), or any other active military duty meant to support the President's call for a war on terrorism as a result of the September 11 attacks, receive supplements to their military pay for a period not to exceed 365 calendar days.

The supplemental payments are equal to the difference between the employee's University base pay and military pay and allowances. In addition, the University continues paying the UC contribution to health plan premiums while employees receive supplemental military pay.

Because it is the University's continuing desire to assist employees who are called to active military duty during these and related campaigns, the University is proposing to extend those payments and health plan benefits until the end of the employee's active military duty commitment or until the end of the 2003-04 fiscal year, whichever comes first.

The supplemental military payments and

benefits continuation would apply to all military campaigns, including Operation Iraqi Freedom, meant to support the President's call for a war on terrorism. The supplemental payments would be retroactive to the first day of military leave without pay.

Under current University policy, employees who are ineligible for supplemental, military pay because their military pay and allowances exceed their University wages must pay both the UC contribution and the employee contribution for health plan premiums if they wish to continue those coverages while on military leave. Under the new policy, employees who elect to continue their health plan coverages while on military leave would not have to pay the UC contribution. The UC would contribute such payments for the duration of the employee's active military duty commitment or to the end of the 2003-04 fiscal year, whichever comes first.

If you would like to comment on these proposals, you should direct your comments to Virginia George at george13@llnl.gov no later than July 18.

EAST AVE.

Continued from page 1

access permit at the kiosk. During morning and afternoon commuter hours a shuttle bus will serve points along East Avenue, a service provided for both laboratories.

During regular, non-commute business hours, taxi service will be available by phone from the transfer drop-off/pick-up area.

WHEELS has announced that because of a route change the 20X express bus from the Dublin/Pleasanton BART station will no longer serve the Laboratory's east gate. However, the 20X bus will serve the new transfer area and stops on the west side of Vasco Road in the morning and east side of the road in the afternoon. The route will be changed in an effort to increase ridership on the return journey to BART in the mornings.

SMART vehicles, carrying a badged driver and personnel, will be allowed through portals at either end of East Avenue.

For more information about controlled access to the East Avenue Corridor Property Protection Area, see the Friday, June 27 edition of Newsline. Additional information about transportation and shuttles will be published in upcoming editions of Newsline and NewsOnLine.



NEWS YOU CAN USE

Summer student seminars feature radiation research, posters and more

More opportunities to learn about current scientific breakthroughs and expand existing interests are available to summer students through summer student seminars. Check out descriptions of the events happening in the next week or go to the student bulletin board online, <http://education.llnl.gov/sbb/>, for more information or to register for upcoming events.

Week of July 14-18

Monday
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BBRP Associate Director Brown Bag Luncheon

Come join Bert Weinstein with your lunch at noon for a question-and-answer session on the Biology and Biotechnology Research Program, future projects, careers and educational opportunities in the field and related topics. This event is located in Bldg 361, room 1155. Contact Barry Goldman, 2-5177, for more information.

Tuesday
15

“How to Create Effective Poster Presentations”

Learn how to create effective poster presentations. This talk will take place at 9 a.m. in Bldg 415, room 218 with Marsha McInnis. The workshop will include guidelines for layout, presentation tips, electronic media program overviews and other helpful topics relating to poster presentations. Contact Barry Goldman, 2-5177, for more information.

Radiation Detection Center

Military Academic Research Associates (MARA) participants can come to this seminar on the Radiation Detection Center (RDC) and learn about their primary focus on identification and analysis of nuclear materials and nuclear weapons. The unifying force of the RDC at the Lab will also be touched upon at noon in Bldg 132S (SW Corner), room 1757. This seminar is restricted to MARA participants only. Contact Barry Goldman, 2-5177, for more information.

“Research: Methods, Manuscripts, and Money “ (Part two of three-part discussion)

Discover three of the secrets to being a successful scientist. This talk takes place at 2 p.m. in Bldg 219, room 163 with presenters Allen Grayson, Bill Hoppes, and Chris Campbell. Learn how to apply “The Three Ms” – Methods, Manuscripts, and Money – to your professional and personal life, including

hands-on practice and valuable information to enhance the side of science that is not taught in the classroom. This is the second of three workshops (note: first workshop last week was cancelled); the remaining workshop is scheduled on July 22 at the same time and location. Contact Barry Goldman, 2-5177, for more information.

Wednesday
16

“How to Create Effective Poster Presentations”

Learn how to create effective poster presentations. This talk takes place at 9 a.m. in Bldg 415, room 218 with Marsha McInnis. The workshop will include guidelines for layout, presentation tips, electronic media program overviews and other helpful topics relating to poster presentations. Contact Barry Goldman, 2-5177, for more information.

“Radiation Effects on Population”

Christine Hartmann-Siantar will present how radiation can affect a population and humanity. This presentation takes place at 10:30 a.m. in the auditorium of Bldg. 155. Contact Aaron Miles, 3-8131, for more information.

Energy and Environment Associate Director Brown Bag Luncheon

Come join CK Chou with your lunch at noon for a question-and-answer session on the Energy and Environment, future projects, careers and educational opportunities in the field, and related topics. This event takes place in Bldg 543, room 1258. Contact Barry Goldman, 2-5177, for more information.

“Scientific Code Architecture”

The Institute for Scientific Computing Research (ISCR) makes large scientific simulators, working with inter-disciplinary groups to devise different architectures for the programs they create. Come learn about this detailed process at 1:30 p.m. in Bldg 219, room 163. Contact Linda Bodtker, 3-0421, or Paul Dubois, 2-5426, for more information.

Thursday
17

“How to Get Into Graduate School Myths”

Colette Patt, the director of the Science Student Diversity Programs in the Dean of the College of Letters & Science Office from UC Berkeley, will discuss popular myths about applying and getting into graduate school. Some of the selected topics include strengthening your application, preparing for the GRE, and an application timeline to aid in planning. This event will be held from 8 a.m. to noon at Sandia, in the Bldg. 905

auditorium. Contact Barry Goldman, 2-5177, for more information.

National Ignition Facility (NIF) tour

Military Academic Research Associates (MARA) and ROTC participants can tour NIF and see the largest laser in the world. NIF enables key programs and technologies that support the U.S. Department of Energy’s National Nuclear Security Administration Defense Programs and the Lab mission of ensuring that the nation’s nuclear weapons remain safe, secure, and reliable. The tour will begin at 3:15 p.m. in Bldg 415, room 218 and is restricted to MARA and ROTC students only. Contact Barry Goldman, 2-5177, for more information.

“Power Presentations”

Professional communication often relies heavily on your presentation skills. This seminar will emphasize important techniques you can utilize to effectively communicate to audiences and will provide a spectrum of choices for you to make informed decisions in forming your personal presentation style. Come to Bldg. 451, room 1025 from 3-4 p.m. to learn more. Contact Linda Bodtker, 3-0421, or Gary Kumfert, 4-2580, for more information.

“Young Researcher: New Careers, New Challenges”

A panel of professionals will answer audience questions and discuss their success in their respective fields and offer advice to young researchers from 10:30 a.m. to noon in the auditorium of Bldg 543. Panel members include Lab employees from a wide variety of fields, such as physicists and engineers. Hospitality will be provided and there will be an opportunity to network with panel members. Contact Karen Lema-Crowe, 2-6233, for more information.

Inertial Confinement Fusion

Energy can be delivered to a target in three ways; come discover the differences and delve into a discussion on electrical and laser energy as it relates to the future of fusion. Steve Payne will lead this talk on an introduction to inertial confinement fusion in the Bldg. 481 auditorium from 11-12 p.m. Contact Dustin Riggs, 2-5780, for more information.

Calendar items may be sent to Leslie Schwartz, 3-6624, L-797, schwartz16@llnl.gov

Technical Meeting Calendar

Friday
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INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

“Nonlinear Optimization Framework for Image-Based Modeling on Programmable

Graphics Hardware,” by Radek Grzeszczuk, Intel Corporation. 10 a.m., Bldg. 451, room 1025 (uncleared area). Contacts: Petri Fast (CASC) 4-2649, or Leslie Bills 3-8927.

Tuesday
15

PHYSICS & ADVANCED TECHNOLOGIES DIRECTORATE-WIDE SEMINAR

“Probing the Outer Solar System,” by Stuart L. Marshall. 2 p.m., Bldg. 2128, room 1000

(uncleared area). Contact: Alan J. Wootton, 2-6533

PHYSICS & ADVANCED TECHNOLOGIES

Post Doctoral Program Forum “Quantum Silicon Dot,” by Aaron Puzder. 1:30 p.m., Bldg. 2128, room 1000 (uncleared area). Contact: Ron Soltz, 3-2647.

Wednesday
16

CHEMISTRY & MATERIALS SCIENCE

The CMS Postdoctoral Program will hold its annual symposium, Bldg. 235, Gold Room and Lobby

area from 9 a.m. to 4:30 p.m. The day will feature oral and poster presentations highlighting research accomplishments by the CMS postdoctoral staff. The day will end with the awarding of the second annual Harold C. Graboske Jr. Postdoctoral Award for excellence in postdoctoral research in the CMS Directorate, and a best poster award for this year’s symposium. Contact: Tom Arsenlis, 4-2584.

ENERGY & ENVIRONMENT

“Improving Tritium Exposure Reconstructions Using Accelerator Mass Spectrometry,” by Adam Love, Environmental Science Division. 1:30 p.m., Bldg. 543 auditorium (refreshments will be served). Contact: Camille Vandermeer, 3-2672.

Friday
18

CHEMISTRY & MATERIALS SCIENCE

“Experiments Aimed at Understanding Solvent-Vapor Smooth-

ing of Polyimide NIF Targets,” by Mitchell Anthamatten, Chemistry & Chemical Engineering Division. 3:30 p.m., Bldg. 235, Gold Room. Coffee and cookies will be served at 3:20 p.m. Contact: Tom Felter, 2-8012, or Rebecca Browning, 2-5500.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

“Compiler Management of Global and Dynamic Data Reuse,” by Chen Ding, University of Rochester. 2 p.m., Bldg. 451, room 1025 (uncleared area). Contacts: Bronis de Supinski (CASC), 2-1062, or Leslie Bills 3-8927.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to tmc-submit@llnl.gov. For information on electronic mail or the newsgroup llnl.meeting, contact the registrar at registrar@llnl.gov.

NEWS OF NOTE



Domestic terrorism a cause for concern

By Leslie Schwartz

NEWSLINE STAFF WRITER

Lone domestic terrorism is one of the most pressing matters of security facing America, according to Terry D. Turchie, the Lab's Security Awareness for Employees (SAFE) program manager.

Turchie spoke to interested summer interns and Lab employees last week about his experience in counterterrorism with the FBI.

"Lone domestic terrorism causes just as much damage as the foreign terrorism you're hearing about on the news today, and it's the hardest type to stop," Turchie said.

Turchie took more than 30 students step-by-step through the case of one of the FBI's 10 most wanted fugitives, Eric Robert Rudolph. Rudolph was arrested on May 31 after a five-year manhunt and charged in connection with multiple bombings, including the bombing of a health clinic in Alabama and fatal bombings at Centennial Olympic Park and other facilities in Georgia that injured more than 150 people.

While working for the FBI, Turchie spent a year in western North Carolina as the special agent in charge of the hunt for Rudolph.

"These people think and act differently than normal people," Turchie explained. "The

motive for their actions is not always connected directly with the crime they commit."

Turchie went through the Rudolph case and strategies employed during the search. Not only did the FBI set up a task force of hundreds of officers in the Nantahala National Forest in North Carolina where Rudolph was hiding, but they also conducted a worldwide search for contacts and evidence that would connect him with separate bombings committed in the late 1990s.

All told, the FBI spent millions of dollars on Rudolph's case. However, Turchie said: "You can't measure terrorist acts on how much money you spend, because there are a lot of different components we have to weigh in. The safety and security of the nation are top priorities."

Turchie noted that one of the great misconceptions about terrorism is that "people automatically jump to wrong conclusions about terrorism, thinking it mainly comes from foreign countries, when our own home-grown people cut right to the heart of the danger to American people."

When asked what can be done to deal with



Terry D. Turchie

threat of domestic terrorism and prevent cases like Rudolph's, Turchie said: "There is no way to accurately predict who domestic terrorists might be, what they might do, or where they might go. That's what makes this so hard to combat and prevent."

He noted that while anger is a common behavior pattern exhibited by domestic terrorists, terrorists use uncommon ways of venting their anger, committing

heinous crimes and acts of violence.

Because lone terrorists are individuals and each case is different, with different motivations and different targets, "there are huge challenges that face us," Turchie said. "We need to train new agents to pinpoint how these people think and the methodologies they most commonly use."

Despite the media attention on foreign terrorist acts, there is little news coverage of domestic acts of terrorism. "You don't hear a lot about domestic terrorism because the cases are very hard to solve. People just want to forget about them until they go away," Turchie said.

The power to persuade is key to effective presentation

By Dale Sprouse

IBIS

In a world where dollars are scarce and competition for them is keen, simply being "informative" is not enough when you are trying to promote your ideas or secure funding. You have to be persuasive, and that requires blending your knowledge with presentation skills.

That was the insight delivered here June 26 by Vanna Novak, a nationally renowned keynote speaker, trainer and consultant who specializes in helping people become effective public speakers.

"You can be the most intelligent, most knowledgeable individual, an expert in your area," Novak said. "However, if you don't have the ability to take that knowledge and get it out there to the world in a way that is convincing, then your impact becomes minimal."

Novak, author and narrator of an audio-cassette program titled "Overcoming America's Number 1 Fear: Public Speaking," urged her noontime Bldg. 543 audience to harness the nervousness they feel when asked to speak in public.

"Being nervous about speaking is not a bad thing," she said, equating butterflies in the stomach and sweaty palms with the rush of adrenaline that gives an athlete the competitive edge. "If you feel some of this nervousness, just call it energy that you can use to create that winning edge," she said.

During her hour-long talk titled "How to Make Powerful and Persuasive Presentations," the energetic Novak spoke of critical first impressions, of body language, of verbal and nonverbal messages, and of the tremendous impact that nonverbal communication can have on an audience.

Research, she says, indicates that physical impression — facial expression, body movement, gestures, stance, posture and dress — accounts for 55 percent of a speaker's impact. Voice — the rate at which one speaks, volume, articulation, intensity, quality and pitch —

accounts for 38 percent. Only 7 percent of the impact of a presentation comes from what is said — the content of the speech and the choice of words.

When beginning a presentation, Novak said, focus on trying to change the mindset of your audience, pushing them in the direction you want them to go.

Grab the attention of those listening to you and arouse their curiosity. Use facts, data, statistics, illustrations, personal experiences, and dramatic or startling statements. Open with questions or a quiz. Plant the seed of a need for answers in their head and heart. And punctuate your talk with a key overriding message (the "KOM"), a one-sentence bottom-line that audience members can carry away with them.

Public speakers need to shun "the quality of sameness" in their presentations and develop the knack of becoming "appropriately unpredictable," said Novak. "The more your presentation takes on the quality of sameness, the more you lull your audience to sleep."

Effective speakers, Novak said, are people who are at their "confident best," believing in what they are talking about and communicating that belief by becoming "a little more animated, a little more projected and more expressive with gestures."

Novak delivered her talk, a shortened version of one of her presentation seminars, under sponsorship of the Safety and Environmental Protection (SEP) Directorate's diversity committee.

Her appearance here was suggested to SEP by members of the LLNL Asian Pacific American Council (APAC) who have attended a Novak seminar at the LEAP Leadership Development Program. LEAP — Leadership Education for Asian Pacifics, Inc. — is a national non-profit organization founded in 1982 to develop, strengthen, and expand the leadership roles of members of the Asian-Pacific community through leadership training, publication of original public policy research and community education.

"Vanna's seminar was particularly impor-

tant for the LEAP attendees since most have English as their second language," said Corry Painter, an employee of the Environmental Protection Department's Radioactive and Hazardous Waste Management Division. "Vanna showed us how to do powerful presentations even if we're not very fluent with the English language. We wanted to share this information with other Asian employees at LLNL."

In introducing Novak, Manny Lateiner, SEP's deputy associate director for Administration, said: "We figured most employees whether Asian or not would be interested in knowing how to do powerful presentations."

Born and raised in Honolulu, Hawaii, Novak is currently based in Seattle, Wash., where as president of M.C. Communications she is in the business of teaching public speaking and presentation skills.

While at the Laboratory June 26, she served as a presentations' coach for summer interns from Hawaii here through the National Security Field Experience Program. "The interns flew home the next day, and it was fun watching them at the airport practicing presentation gestures and other skills that Vanna taught them," said Marjorie Gonzalez of the Defense and Nuclear Technologies Directorate. "They felt very fortunate that Vanna was able to spend time with them."

In addition to her audiotape on public speaking, Novak is the author and featured speaker on another taped program, "Winning Clients Through Powerful & Persuasive Presentations." Her clients include Alaska Airlines, Budget Rent-A-Car Systems, the Disney Corporation, Firestone, IBM, Macy's, MUZAK, Nordstrom, and, UCLA's Anderson School of Business.

Novak is a distinguished faculty member of the Women's Leadership Institute through the Anderson School. Her background includes having served as a director of employee relations, university adjunct faculty member, two-time gubernatorial appointee in Washington state and, featured guest on both radio and television.



CLASSIFIED ADS

See complete classified ad listings at
<https://www.ais.llnl.gov/newsline/ads/>

AUTOMOBILES

1991 - Nissan 240-sx, SE Hatchback, Excellent condition, 103,000 miles, runs like new, HICAS suspension handles great. \$3500.00 or best offer. Must Sell! 925-371-5599

1988 - Mazda 626 LX 4D, 5-speed manual, AC, cruise, pwr windows/ sun-roof/ locks, NEW MP3/CD stereo. 213K miles, looks great, very reliable car! \$1200. 925-456-8723

1994 - Olds Cutlass Ciera. Spotless. 64K+ one-owner mi. 3.1L V6. Pwr. Excellent in and out. \$3700 925-447-7082

1990 - Mustang Convertible, 5.0 V8, Good condition, all power options, runs great, lots of new equipment, \$5000, consider trade. 925-698-5627

1996 - Ford Explorer XLT, 4-dr/4wd, 10-disc changer/tape/radio, airbags, roof racks, power everything, Kelly BlueBook: \$8000, 175k mi, perfect int, \$5000 415-401-6343

1991 - Isuzu Rodeo, 5-spd, V6 engine, A/C, 121K miles, orig. owner, good cond. \$1800/obo. 925-447-1360

1971 - Porsche 911 Targa, Black on Black, Needs tires,brake and interior work, otherwise good condition. \$4300. OBO 925-292-0134

1995 - Toyota Camry LE Excellent Condition \$5,900.00 925-449-6936

1991 - S-10 Blazer, AT, PW, PL, leather, 146K miles, 4 door. \$4,000 or best offer. 925-449-1363

1994 - Olds Cutlass Supreme; Automatic, Leather, PS/PW/PS/CC/Tilt + more. AM/FM cass, alum rims. Very Clean!! \$6,000 OBO. 209-551-2763

1993 - Geo Metro Hatchback 115,000 miles. 4 door. 5-speed. Regular condition. Cassette player. No air conditioning. \$1000 o.b.o. 925-924-1773

1984 - Ford 3/4 Ton Diesel Truck with camper shell. Has new tires and battery. Call for more information. \$3,500 (obo) 209-836-1506

1992 - Lincoln TownCar, 57000 original miles, very well kept up, totally garaged, \$7500.00 408-242-0096

BICYCLES

12inch Rhino racer boys bicycle, silver, good condition, \$25. 925-294-9022

Specialized Fat Boy, good tires, pegs, barely riden, \$150/obo. 17 speed Kawasaki with off road tires, needs a tune up, \$20/obo. 925-449-1324

Equinox Tourlite bike trailer. Complete with clear plastic rainsheild, mosquito netting, and universal hitch.\$80.00. 925-447-9268

BOATS

1991 Bayliner, 20ft, 135hp mercuiser L-shaft in/out board,cuddy,cover,7 seats,escort trailer,good cond,\$4,500 obo.925-373-6494

CAMERAS

Brand new Nikon N80 with lenses sigma 28-80 (2x) and sigma 28-200 (4x), film and batteries, all for \$500/b.o. 925-377-6537

Darkroom equipment. Enlarger, lenses, reels, cans, misc. Call for details. 925-373-6813

ELECTRONIC EQUIPMENT

Apple LaserWriter IINT, works with MAC and PC with WIN98. Low page count and runs great. \$125. 925-361-7111

COPIER Minolta Model 1080, Collates, Document feeder, A & B Size paper, excellent codition \$870 or best offer. 925-449-2008

Nintendo 64 game console, w/ expansion pack, in orig. box. 3 controllers, 14 games, gameshark, memory card, rumble packs, strategy guides. \$85 obo 925-292-0348

DeII INSPIRION 4150 Notebook, 14.1 UXGA (1600x1200), 1.8GHz, 512RAM, 30GB HD, DVD/CDRW, 802.11b Wireless, LAN, Modem, WinXP, Software! \$1400 OBO 707-494-6689

2 monitors \$15 and \$10. 300 watt Boxed Subwoofer pair \$15. 925-443-9928

HAM Radio Transciever - ICOM 756 Pro II w/ Astron Power Supply. Mint Condition \$1,000 209-838-8642

Klipsch Heresy Speakers with stands. Stained at factory . Very good condition \$450.pair OBO 925-292-0134

Laptop w/ lifetime free service! 900 MHz celeron, 14.1 in. TFT LCD, 256 MB ram, 10 GB hd, Windows and Office XP. Loaded! \$1550 obo. 209-832-9534

Computer case, has P3 700 mhz processor, needs HD, CD and RAM, \$50/obo. 15 in. monitor \$10/obo. 925-449-1324

GIVEAWAY

Sears zone air conditioner. Works fine. You haul. 925-443-0358

HOUSEHOLD

Brown Italian leather modular chair and ottoman set, 2 chairs and ottoman. Use either as sofa or corner set. Orig. \$3000, sacrifice at \$300. 925-361-7111

Woodworker Bench w/2 wood vises 52 inches Long x 21 inches Wide \$100 or best offer. 925-449-2008

WASHING MACHINE, Whirlpool, heavy duty extra large capacity plus. 9-cycles, 2-speeds, 3 years old. Runs great. \$75. 925-449-6166

GE Refrigerator 21 cu ft. Top freezer model with auto icemaker. 6 yrs old. Practically in new condition. \$175. 925-454-8827

Antique oak refectory table, 42Wx43L or 57L w/leaves extended, \$600 offer. Old large walnut executive desk, 3ftx5ft, \$75. Child desk w/drawers, \$10 925-455-1306

Washer/dryer. both work great! \$90ea, \$150both, obo. 925-443-9928

Entire house of contemporary oak and leather furnishings including: bedroom, living room, office, den. Downsizing to zero. Milpitas 408-263-8822

Little Tykes kitchen set. Lightly used, with accessories \$35.00. 925-371-0507

ANTIQUE OAK TABLE & 4 CHAIRS, 42 in. Round, (2) 9.5 in. leaves, Good Condition, 2 Sets of Oak Chairs, \$300.00 925-456-0503

Wooden safety gate, approx 36 in. extending to 64 in. Mounts stay on wall; gate pivots on mounts or detach-es. \$30 obo. 209-832-9534

23in. Color TV - RCA, 1987. Slow starting, excellent picture. \$35 in Tracy. 209-830-0762

Toddler bed, solid wood, natural finish, exc. quality, like new, \$60. Simmons Maxipedic crib/toddler mattress, \$25. 925-454-0877

Tablecloth - beautiful, new, hand crocheted and cross-stitched; 55in x 74in with rounded corners; white; cross-stitched yellow fruit; \$250 925-456-6725

Whirlpool washer and electric dryer set-white, whirlpool electric dryer-It. yellow, reliable older models, \$50 each appliance 925-454-8918

MISCELLANEOUS

Dixie Chicks Concert Tickets (2). Oak-

land Arena July 15. Sec. 108 (Lower resvd). Asking \$79 (Face value) each. Offers considered. 925-867-9411

Brand new Grandfather Clock still in carton. Call to view photographs (which could be e-mailed) \$2300/OBO Call Eves: 925-828-6568

49er Tickets: Various games available. UR Section 38, Row 10, Seats 1 & 2 209-599-9942

Magic Mountain/Hurrican Harbor tickets - 4 Adult(\$22.50 ea) & 2 child- dren(\$15.00) (Purchased at Lab store) 209-858-2506

JOHN LENNON, Autographed Poster of Lennon at piano used to create Imagine. Signature dated 77, Letter of Auth. Matted and framed \$2,500. OBO 925-292-0134

THOMAS KINKADE Artist Proof #3/385 S/N Double matted and Framed, Very serene bridge, stream and cottage scene. Great Anniversary Present. \$475. OBO 925-292-0134

Light blue/white Little Tykes 2-shelf bookcase and matching rocker. \$20 each obo. 209-832-9534

Like new lightweight GOZO double (tandem) jogger w/sun shields. Great for jogging and everyday use. †Go to gozo.com for picture and features. \$200.00 209-833-0783

Wedding gown. Size 16 Jessica McClintock with custom lace & detachable train. Paid \$300 asking \$150 925-961-0153

Combi deluxe stroller, large basket, snack tray, holds infant carseat, matching carseat cover, full recline, \$60. 925-454-0877

Ivory bridesmaid or wedding dress, size 4, two-piece, BRAND NEW, never been worn! Gorgeous! \$75.00. 925-456-3494

Owl Collectable plates w/frames 209-529-9137

MOTORCYCLES

1990 - H-D Deluxe 1200 Sportster. Low miles, lots of extras, must see. Asking \$6,800. 209-239-4450

1980 - Morotcycles total of 7 including: Honda MT250 good condition dual sport \$850, CL350 near mint collectable about 3K miles \$2,300. 408-263-8822

1971 - Puch scooter from the 70s, not currently running, good project for son or daughter. All parts and manuals \$150. OBO 925-292-0134

MUSIC INSTRUMENTS

Emerson piano, very good condition, circa 1920s. Tuned to A=440. \$350.00 includes bench and tuning within 20 m of LLNL. You move. 925-371-6997

PETS & SUPPLIES

Siamese mix, 3 kittens. Spayed, neutered, combotested, vaccinated, wormed. Lovable kitties! TriValley Animal Rescue, Dublin Petsmart, SatSun 1-4. 925-443-6248

Free to good home. Two female rabbits, brownish-gray in color. Also, cage and accessories free. 925-456-5345

Aquarium, 50 gallon, 48 inches wide. Includes wooden cabinet stand, pumps, filters, light. \$75. 925-373-6813

Mini Schnauzer needs new family. Annie is 18 mos. old and is not getting the attention she deserves. Please call. 209-835-1128

2 10 gallon aquariums. 1 has rocks, accessories, \$30/obo. 1 55 gallon aquarium accessories, live turtle and fish, \$100/obo. 925-449-1324

Baby Cockatiels for sale. Lutinos- \$50.00 each. Call after 6:00 PM. 925-606-7128

5 Yr. old Red dun overo gelding, genital

ranch raised, easy western pleasure. Clips, ties, trailers easy and just wants to be loved! 209-847-8264

RECREATION EQUIPMENT

NordicTrack Achiever Ski Machine. Includes exercise computer and book rack. Was \$800 new. Excellent condition. \$200. 925-443-1066

PING PONG Table Full Size \$40 or best offer 925-449-2008

7x7 hot tub/spa with 12 jets and a therapy seat. 220 V. Cover included. \$1,950 obo. 209-832-9534

Double jogging stroller by Babyjogger, magenta, 16in wheels. \$410 new, asking \$200. 925-449-4895

Golf Clubs. Mens Complete Set. Rawlings Irons 2-9, wedge, putter. Accu-tech Woods 1, 3.5, bag, cart, balls, \$125. 925-443-3213

Gravity Edge (like Soloflex) complete w/accessories, video & manuals \$175.00 o.b.o. 925-734-6039

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsmp>.

Modesto - Ride Share - Scenic and Oakdale Road. Hours: 8:00 - 5:00 p.m. can be in earlier and stay a little later, if necessary/flexible. 209-579-7673, ext. 2-8645

MANTECA - Rider/Driver Work hours are 7:30AM to 4:00 PM Flexible drive schedule. 209-823-5593, ext. 3-8539

SERVICES

Licensed, professional carpet and upholstery cleaning. Excellent references, competitive rates. For a free quote, please call 925-245-0911

Piano Tuning--your place or mine. 10% LLNL discount on regular tuning. 925-371-6997

House/Pet Sitter available in the Tracy/Livermore area. Very responsible, references available from past clients upon request. 209-629-4953

SHARED HOUSING

Livermore - Rms for rent (2). Clean, quiet, good east side neighborhood. Master w/priv bath \$500/mo. Smaller rm w/shared bath \$400/mo. Most utilities included. 925-447-6218

TRUCKS & TRAILERS

2000 - 2000 GMC Jimmy 4x4 4 Door Leather Int. Roof Rack Tow Package , CD 37,000 Mi, STL Model \$19,999. 209-918-1727

1985 - Nissan Deluxe 4WD Longbed with automatic locking hubs, camper shell 2.4 liter, 4Cyl. 5 speed Transmission AC/TiltWheel/Am/Fm/CDplayer. \$3,100 OBO. 209-825-0138

1979 - Motorhome, 23 ft Dodge Brougham, class C, 46,000 miles, 440 engine, new tires, generator, king bed in rear. \$4,200 OBO. 925-447-2508

1994 - Ford E-350 mini-bus conversion. Flexible seating (currently 16-pass). Has A/C, Air Ride system, AM/FM cassette and much, much more. \$16,000 or offer. 925-443-3066

1985 - Ingersol rand 185CFM air compressor towable diesel engine very good condition 4500 or offer 209-239-6526

2002 - Cedar Creek 5th Wh 33 feet, 2 slides, loaded, like new, pictures available \$29,999.00. 510-317-9879

1997 - Jeep Cherokee sport, 108k, 6cyl, AT, Pwr wndws, tinted glass, new tires, new tags, red w/grey int. \$6k obo. 925-783-5607

1999 - Chevy Suburban LS 4X4, Tan interior clean in & out, Blue book list-

ing at 21K will take best offer. 209-324-7912

2001 - 2001 PJ Trailer 16ft Tandem Axle Flat Bed \$1900.00. 925-829-2951

VACATION RENTALS

Santa Cruz - - Sooo cute cottage in the harbor area. 4 blocks from beach. 2 bedroom, 2 bath sleeps 7.

Arnold - - Great newer four-bedroom cabin at a cool 5,000 foot elevation above Arnold near highway four. 925-245-1114

SOUTH LAKE TAHOE - 3 Bedroom 2 bath Chalet, nicely furnished, All amenities, Park w/ Lake, tennis etc. Great for family vacation! 209-599-4644

Solana Beach/Del Mar - Oceanfront condo, Deluxe 2br., 2 1/2 ba, tennis, pool, jacuzzi, fully equiped, gated and indoor parking, near San Diego attractions 925-443-2271

Kauai, HI, On the Beach, - 1 BR, sleeps 4, Nov 22-29, 2003, \$650/week Call for more info. 925-449-6048

WANTED

DIPLOMACY game in Dublin on Saturday 7/12/03 is looking for another player. Start time 10 AM. 925-828-8378

Wanted- Double Bed for teenager including frame, reasonable price call 925-354-3196

Wanted: Custom seamless guttter installation. 925-831-9331

Wanted, upright or baby grand piano for piano lessons. Please no spinets. 925-513-7416

Womens bicycle for use on-site - inexpensive 925-449-1481

Raider tickets for 12/22/03 Monday night game. 209-836-3554

Avid fisherman willing to trade fresh ocean fish for free boat storage. 925-455-0486

Raffle Prizes & Golfers for LVEF Golf Tournament on 8/4 at Castlewood. Proceeds benefit Livermore schools. 925-447-8557

Looking for play yard equip for grand children, swing set, monkey bars, etc. Call 925-513-4488

Looking for camper or motorhome to rent for 10 day camping trip around Labor Day. 510-821-0046

Volunteers Needed for Operation Welcome Home. 925-449-6048

Used MOVING boxes needed. Joanne 209-492-0270

Crazy From The Heart (1991) video, starring Christine Lahti and Ruben Blades, to borrow, rent, or purchase. Roberta 209-823-1664

HOT WHEELS from 60s, 70s, or 80s. will pay CASH, regardless of condition. Please 925-325-1123

Pool table wanted (pref. \$300 or less) and / or ping-pong table. 925-447-0363

Wanted: a recumbent exercise bike in good, working condition. 925-243-0728

Harvest Valley Church in Salida, CA is looking for an individual to drive a full size bus on Sundays in the AM. Call with leads or interest. 209-543-6349

Cassette deck or recorder. Must be autoreverse recording. Dual preferred. Possible recording from external timer. 925-443-1778

Free/Cheap furniture for college student rental house. Will pick up. 925-443-6617

Buying Weapon Program, System & Test Patches in excellent condition (\$5 to \$25 each), Also New Test Stickers (NTS & Other) \$1 to \$4 each. 925-294-8277

NEWS OF NOTE



A behind the scenes look at World War II science effort

By Don Johnston
NEWSLINE STAFF WRITER

Alfred Loomis may not be a household name, even in scientific circles, but he played a pivotal role in developing the science and technology that allowed the allies to win World War II.

Journalist and author Jen-net Conant provided a glimpse into the life and times of Loomis and the coterie science titans, such as Ernest Lawrence, with whom he sur-rounded himself. Her recent presentation was based on her book, “Tuxedo Park: The Secret Palace of Science That Changed the Course of World War II.”

Though not widely known, Loomis’ close friendship and sponsorship of Lab co-founder Ernest Lawrence “was an important part of Lawrence’s career.”

“If a man called Loomis hadn’t come along, Lawrence would probably not have gotten the cyclotron,” Conant said, referring to Lawrence Berkeley Laboratory’s big \$2 million 164-inch cyclotron, which may be forced to shut down after 42 years because of cuts in government funding.

Loomis, the product of a distinguished New York family, was a financier and entrepreneur who used the fortune he made as an investment banker in the 1920s to pursue his passion for science. In the mold of the aristocratic British scientists who built research laboratories next to their mansions, Loomis set up a state-of-the-art laboratory in the stone palace on his Tuxe-do Park (New York) estate.

A mathematical genius in the Wall Street world of finance and able to play games of chess in his head against multiple opponents, the enigmatic tycoon dedicated his private time to experiments in his laboratory, where he brought the scientific luminaries of the day — Albert Einstein, Niels Bohr, Werner Heisen-berg, Enrico Fermi and Lawrence. It was Ein-stein who dubbed Loomis’s laboratory “a palace of science.”

With funding for scientific research in short supply during the Depression era, Loomis had little trouble enticing researchers at the fore-front of their fields to come to his laboratory. In the 1930s, science was mostly privately funded.



JACQUELINE McBRIDE/NEWSLINE

Author and journalist Jen-net Conant

Loomis became Lawrence’s “personal fund raiser” and “tutor in politics and money,” Conant said.

It was Loomis who bought Lawrence a Cadillac and hired a driver so he “would not waste his time,” she said.

Raised in New York’s high society and trained as an attorney, Loomis also had politi-cal savvy and connections to mobilize resources for science, particularly research and development for national defense. His cousin Henry Stimson served in cabinet-level posi-tions in two presidential administrations, including Secretary of War under Franklin Roo-sevelt.

Loomis’s partnership with Lawrence was vital to the effort to develop the radar technol-ogy that helped turn the tide of World War II in the allies’ favor and later the atomic bomb that helped end the war. “If it weren’t for Loomis and Lawrence, the MIT ‘Rad Lab’ would never have been founded,” Conant said.

Naming the MIT Rad Lab, dedicated to radar development, the same as Lawrence’s Berkeley Radiation Lab was meant to hide the activities of the radar lab from the German intelligence.

Conant said Lawrence and Loomis “were born to be friends” and shared a view of science and technology “that the bigger the machine, the better.”

“Lawrence was a physicist who wanted to be an entrepreneur and Loomis was an entre-preneur who wanted to be a physicist,” she said. “It was a perfect marriage.”

In 1934, Loomis quit Wall Street — “an

unheard of proposition for a business man at the time” — to dedicate himself to his sci-entific projects.

As war in Europe loomed in the late 1930s, Loomis was concerned that the United States was “unpre-pared for war” and lagging behind Germany in science and technology. Because of his contact with foreign scien-tists, he “was very aware of German science.”

Events in Europe lent an urgency to the creation of the MIT radar laboratory. “In a matter of months it became one of the best labs in the world,” Conant said, noting “all of this happened a year and a month before the Japan-ese attack on Pearl Harbor.”

Loomis’s political connections and ability to mobilize resources “put him in the thick of things” in the 1940s. Tuxedo Park was trans-formed into a top secret research lab all the while he remained involved in the MIT radar project and Lawrence’s nuclear science research in Berkeley. Loomis has been described as “a cross between F. Scott Fitzger-ald and Batman,” Conant said.

Loomis’ compelling story might never have come to light had it not been for Conant’s curiosity about stories recounted at cocktail parties and her discovery of a science fiction book penned by her great uncle, William Richards, a scientist who worked in Loomis’s Tuxedo Park lab. Though fiction, “Brain Waves and Death” described with great technical detail and accuracy the activities of the Tuxedo Park lab, including Loomis’s long-term affair with his protégé’s wife.

Loomis’ eventual divorce “created such a firestorm” in New York society that he went into seclusion after the war. “He was stung by the public criticism of his private life,” Conant said.

This, after he had received the nation’s highest civilian honors for spearheading the R&D effort critical to the allied victory in the war.

The remarkable technological feat that the rapid development of radar represented was eclipsed by development of the atomic bomb. “In the end the bomb stole radar’s thunder,” Conant said, though “radar won the war and the bomb ended it.”

Sizzling forensic science and the many roles it plays in real life

You’ve seen it on television: crime-scene investigators using forensic science to solve the tough-est cases. But what is forensic sci-ence like in real life and what role will it play in homeland security?

Lab chemist Glenn Fox will dis-cuss “From ‘CSI’ to Homeland Security: The Many Sides of Foren-sic Science,” on Wednesday at 7 p.m. in the Livermore High School Performing Arts Theater.

Fox will explain how tradition-al forensic science is implemented in the Lab and how it gets to the courtroom. Fox also will discuss the role of forensic science in



national security and the role the LLNL Forensic Science Division plays in detection and analysis of materials that could be used in terrorist inci-dents. Get a first-hand look at devices used in forensics as Fox showcases several excit-ing technologies, and learn how forensic science differs from how it is portrayed on television.

“The biggest difference is the time frame. For example,

you can’t plug a sample into a machine and get DNA results back in five minutes like you see on

the ‘CSI’ shows,” Fox said. “And many forensics labs aren’t equipped with the sheer amount of devices that are at a scientist’s fingertips in the crime labs shown on TV.”

This talk is the second in LLNL’s “Sizzlin’ Summer Science” Lecture Series, a four-week series of free talks geared toward families, middle and high school students.

These free lectures continue each Wednesday in July at 7 p.m. at the Livermore High School Per-forming Arts Theater, 600 Maple Street.

For more information on the “Sizzlin’ Summer Science” Series, check the Website at <http://www.llnl.gov/llnl/06news/Community/lec-ture.html> or contact Christine Mixan at 2-3138 or mixan1@llnl.gov.

R&D 100

Continued from page 1

Alamos and Lawrence Livermore, this advance permits the early detection of biological pathogens. The Livermore team members hail from three directorates — Nonproliferation, Arms Control and International Security, Biology and Biotechnology Research Program, and Engineering. They include: Bruce Henderer, Cheryl Strout, Dennis Imbro, Evan Skowronski, Jackie Cofield, Julie Avila, Kris Montgomery, Linda Danganan, Linda Ott, Mark Wagner, Patsy Gilbert, Paul Sargis, Paula McCready, Richard Parker, Robert Johnson, Tom Slezak and Virginia Montgomery. Another 50-70 LLNL employees have been involved in BASIS deployments to U.S. cities.

- Lasershot Precision Metal Forming System: This technology is a revolutionary approach to shaping large-panel structural components, such as in the aviation industry. This award is shared with Metal Improvement Company Inc. Livermore winning team members from the Laser Science and Technology Program and Engineering, are: Lloyd Hackel, Hao-Lin Chen, Tania Zaleski, Andre Claudet, John Halpin and former Lab employee C. Brent Dane.

- Ion Beam Thin Film Planarization Process: This process has helped solve one of the greatest technical challenges for producing faster computer chips with more memory using extreme ultraviolet lithography. Members of the winning team are from three directorates (Physics and Advanced Technology,



INDUSTRIAL PARTNERSHIPS AND COMMERCIALIZATION OFFICE

The wing of an aircraft can be reinforced by using the Lasershot Precision Metal Forming System. This revolutionary technology is an R&D 100 Award winner.

Chemistry and Materials Science and Engineering) and include: Paul Mirkarimi, Sherry Baker, Victor Sperry, Eberhard Spiller and Daniel Sterns.

- Extreme Ultraviolet Lithography Full-Field Step-Scan System: This system is the only fully integrated system in the world that prints 50-nanometer (billionths of a meter) features on computer chips, almost twice as small as features possible with other systems. The award has been given jointly to

researchers from Lawrence Livermore, Lawrence Berkeley and Sandia national laboratories, as well as Northrop Grumman Space Technology/Cutting Edge Optronics. Livermore members from the directorates of Physics and Advanced Technology, Chemistry and Materials Science and Engineering are: Regina Soufli, Sherry Baker, Kenneth Blaedel, Henry Chapman, James Folta, Frederick Grabner (retired), Layton Hale, Russell Hudyma, Richard Levesque, Claude Montcalm, Nhan Nguyen, Donald Phillion, Mark Schmidt, Gary Sommargren, Eberhard Spiller, Donald Sweeney, John S. Taylor and Christopher Walton.

- MEMS-based Adaptive Optics Phoropter: This technology combines advances in astronomy and micromachining to enhance vision and improve early diagnosis and treatment of retinal diseases. The award is shared by LLNL, Sandia National Laboratories, the University of Rochester, Wavefront Sciences, Boston Micromachines Corp. and Bausch & Lomb. Livermore researchers on the team were drawn

from the Physics and Advanced Technology and Engineering directorates and included Scot Olivier, Brian Bauman, Steve Jones, Abdul Awwal, Kevin O'Brien and former LLNL employee Don Gavel.

Since 1978, LLNL researchers have won 97 R&D 100 awards. Further information about Livermore's awards and the annual dinner to honor recipients will be published in a future edition of *Newsline*.

AWARD

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Group in A/X Division at the Lab, Suter's work has most recently focused on the understanding and control of laser hohlraum physics at the National Ignition Facility. His latest work shows how to further improve the efficiency and yield of potential NIF ignition experiments. His work on hohlraum X-ray physics has also led to the development of novel high efficiency X-ray sources for a variety of other applications.

Reacting to winning, Suter said, "It's great to be part of a laboratory that provides so many opportunities."

The American Nuclear Society also awarded a Teller Medal to Japan's Professor Hideaki Takabe of the Institute of Laser Engineering at Osaka University.

The awards will be officially presented Sept. 10 at the Third International Conference on Inertial Fusion Sciences and Applications (IFSA2003) in Monterey, Calif., where 400 scientists and engineers from all parts of the world will compare notes on the latest research in inertial fusion.

The Edward Teller Medal is named in honor of Dr. Edward Teller, distinguished physicist, director emeritus of the Laboratory and senior research fellow at the Hoover Institution. Teller is recognized worldwide as a pioneer in inertial fusion sciences. The award has

been granted to 20 scientists from 10 countries in previous years. It is now under the auspices of the ANS Fusion Energy Division and will be given biannually at the IFSA conferences.

The American Nuclear Society is a not-for-profit, international, scientific and educational organization. ANS has a diverse membership composed of 10,500 engineers, scientists, administrators and educators who seek to exchange scientific and technical research, encourage scholarship and disseminate information on nuclear science and technology.

For more information about the Edward Teller Medal, contact ANS Outreach, at (708) 579-8224, or outreach@ans.org.

SECURITY

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"There have been a wealth of studies of security in the weapons complex over the years, including outside commissions, internal review teams and investigative reports by the Department of Energy's inspector general and the General Accounting Office, but it is clear that not all the good ideas have been implemented," Brooks said. "I have directed a team to review the many recommendations and devise a plan for implementing any sound ideas that we have not yet undertaken."

The NNSA administrator also established two review groups to assess longer-range issues affecting security management and protection including:

- Forming a commission to recommend improvements in physical security and materials control and accountability programs at the weapons laboratories.
- Establishing a separate panel to develop recommendations for recruiting and retaining sufficient security experts to effectively oversee safeguards and security in the NNSA complex in the long term.

Brooks said he organized the new groups to address two concerns. "While we need to make use of past recommendations, I think we need to take a fresh look at safeguards and security operations in NNSA in light of the post 9/11 threat environment," he said. "And we need to find a way to deal with a shortage of qualified, experienced security managers in NNSA."

Brooks made these decisions after consulting with Secretary of Energy Spencer Abraham, who endorsed the efforts to ensure improved security oversight.

Abraham and Brooks acted in response to a series of recent security incidents at the NNSA weapons lab-

oratories. "While there has been no compromise of classified material or loss of special nuclear material, the nation cannot tolerate any degradation in our security posture and thus problems must not be allowed to persist," Brooks said. "I am taking immediate action to ensure myself personally that NNSA is taking vigorous actions to improve and maintain security."

Although the initiative came in response to problems at the weapons laboratories, it will cover the entire NNSA weapons complex to ensure similar problems do not develop elsewhere.

Two respected retired officers with extensive nuclear weapons experience have agreed to chair the commissions.

Retired Admiral Richard Mies will lead a panel that examines physical security and nuclear materials control and accountability programs, focusing primarily on NNSA's weapons laboratories. Brooks has asked Mies to explore, among other things, improved deployment and management of protective forces at the laboratories and the improved use of state-of-the-art security technology.

Retired Admiral Hank Chiles will chair a group charged with developing recommendations for recruiting and retaining NNSA managers who have the technical, engineering and physical sciences expertise needed for effective, long-term oversight of safeguards and security operations in the nuclear weapons complex.

Mies and Chiles both have served as commander-in-chief of the United States Strategic Command. Chiles also chaired a congressionally-authorized Commission on Maintaining United States Nuclear Weapons Expertise.

"I am pleased that these two well-regarded public

servants are taking on these challenging assignments," Brooks said. "Together they can help NNSA design the optimum safeguard and security systems for the 21st century and find the best managers to run them."



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